FOOD HABITS AND ACTIVITY PATTERN OF
THE COMMON OTTER *LUTRA LUTRA NAIR* (F. CUVIER)
AT PICHAVARAM, TAMIL NADU, SOUTH INDIA[1]

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Food habits and activity pattern of the common otter (*Lutra lutra*) were studied in Coleroon and
Uppanar rivers, in Pichavaram mangrove forest, in Tamil Nadu, during December 1991 to March
1992. A total of 2,552 records of diurnal activities were noted through group scan of a population
in freshwater habitat. Two spraints were collected from brackish waters and 176 from the adjoining
freshwater habitats. Swimming or moving was the major diurnal activity, followed by resting.
Scat analysis showed that fish was the major food item in the diet, followed by crustaceans.

INTRODUCTION

Otters are considered as health indicators
of wetland habitats (Foster-Turley *et al.* 1990).
The otter population is declining in many
wetlands due to pollution, deforestation and
conversion of wetlands into agricultural and
aquaculture lands (*op. cit.*). Studies on the
European otter (*Lutra lutra*) have indicated that
human disturbance is a major factor in the decline
of its population (Joint Otter Group 1977).
Studies on the population and feeding ecology
of Indian otters are very limited (Hussain 1992).
This paper reports some observations on the food
habits of the common otter *Lutra lutra nair* in
Uppanar and Coleroon rivers, at Pichavaram, on
the east coast of India, in Tamil Nadu, from
December 1991 to March 1992.

STUDY AREA

The study area adjoins the Pichavaram
mangrove forest in South Arcot district, Tamil
Nadu, on the east coast of India. It comprises a
c. 5 km stretch of the Coleroon river and 15 km
stretch of the Uppanar river (11° 25' N. 74°
47' E). The study area at Coleroon was about
2 km south of Pichavaram village and is called
Block I. The width of the backwaters at Coleroon
ranged from 250 to 300 m and depth from 2 to
5 m, during the dry season. Both banks were
mostly covered with prawn culture farms and
narrow strips of thick bushes. The site at
Uppanar river covered about 8 km of freshwater
habitat (Block II) and 7 km of estuarine habitat
(Block III) and is to the north of Coleroon river.
Blocks II and III were separated by a check dam,
which formed a small reservoir of fresh water
used for agricultural purposes and which
provided a good habitat for otters. The width of
Uppanar river varied from 10 to 15 m and depth
from 1 to 5 m. The freshwater habitat (Block II)
had a village (1 km stretch), paddy fields (3 km)
and thick bushes (2 km) on its banks. The
estuarine habitat (Block III) was covered with
paddy fields (2 km), prawn farm (2 km), thorny
bushes (2 km) and open land (2 km). The
Uppanar river mouth was occupied by an
extensive stretch of mangrove forest.

MATERIAL AND METHODS

The otters occurring in the study area were
identified as *Lutra lutra nair* (Krishnan 1977).

They were located by frequent surveys during early hours. A total of 176 fresh spraints (less than a week old) were collected from these localities. These were washed in a fine sieve; the various components were separated and broadly identified as fish, crab, prawn, insect and others. The percentage frequency of the various prey items was collectively calculated for all spraints, for each block. Time spent by otters on different activities was estimated by group scan (Altmann 1974), at intervals of 10 minutes, only from Block II since visibility in other areas was poor. The activities were categorized into feeding, resting, moving or swimming, playing and others. Success rates of foraging dives were also estimated. All observations were made from dawn to dusk, for six days each month, from December 1991 to March 1992. Since the animals were shy and aquatic, it was difficult to follow them continuously, but an average of 4 to 5 hrs of observation was possible in a day (range 2 to 8 hrs). The number recorded per scan varied from 3 to 6.

Percent time spent on an activity was calculated for each day from: $T_a = n_a \times 100/N$ where

T_a — % time spent on activity a

n_a — number of records with activity a and

N — total number of records for the day

An average of these percentages over the study period was used as an estimate of the time spent on each activity.

RESULTS AND DISCUSSION

A total of 2,552 records of diurnal activities were made in 24 days. Moving or swimming was the major activity, taking 42.84% of the day time (range 30.1% to 53.7%). Resting was second, taking 30.87% of the day time (range 26.4% to 34.8%), while feeding was 20.3% (range 15.7% to 24.3%). Playing and other activities constituted 3.79% and 2.14% respectively.

Fish was the most common food item in the spraints collected in Block I (71.5%) and

Block III (68.2%), and second most common in Block II (36.4%) (Table 1). Crustaceans (crabs and prawns) were common in the spraints in Block I and II, while crabs were most common in Block II (45.5%). 3% to 12% insects were found in the spraints. Whether the frequency of occurrence of various food items in otter spraints can be interpreted as the proportion of food intake is confounded by many factors, such as differences in prey size and proportion of indigestibility (Macdonald and Mason 1986).

Fish is a major food item of the European otter *Lutra lutra* (Kruuk *et al.* 1987), and smooth Indian otter *Lutra perspicillata* (Hussain 1992).

TABLE 1
PERCENTAGE OCCURRENCE OF DIFFERENT FOOD ITEMS IN OTTER SPRAINTS COLLECTED IN THE PICHAVARAM AREA, EAST COAST OF TAMIL NADU

Food item	Percentage occurrence of food items		
	Block I	Block II	Block III
Fish	71.54	36.36	68.18
Crab	14.30	45.45	9.10
Prawn	7.15	12.50	13.62
Insect	3.44	5.70	9.10
Others	3.57	0.00	0.00
Number of spraints analysed	80.00	32.00	64.00

In the former species, some habitat differences in the food preference were seen, with the crustaceans forming the main food item (Macdonald and Mason 1987).

Fifty-four feeding dives were recorded, of which 39 dives (72.0%) were successful. Of the successful dives, otters captured fish on 22 occasions (56.4%), crabs on 8 (20.5%), prawn once (2.5 %) and unidentified items on eight occasions (20.5%). This observation on feeding also indicates the dominance of fish in the diet. The differences between direct observation of feeding and spraint analysis in the Block II population, may be due to the otter feeding on smaller prey (mostly crabs) under water.

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